

Amendments to the Claims

Please amend Claims 1, 3, 4, 6-15, 20, 24, 26, 28 and 32 to read as follows.

1. (Currently Amended) A liquid discharge apparatus for discharging a liquid to a medium using a liquid discharge head having a plurality of nozzles for discharging the liquid, comprising:

a voltage control device which can independently change a respective driving voltage ~~values~~ value of a respective driving ~~pulses~~ pulse to be supplied to each of the plurality of nozzles,

wherein said voltage control device changes ~~the~~ a driving voltage value ~~in accordance with~~ so as to correct a liquid discharge amount change caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the medium, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the medium, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the medium, and a speed of the relative movement of the head and the medium.

2. (Cancelled).

3. (Currently Amended) A liquid discharge method of discharging a liquid to a medium using a liquid discharge head having a plurality of nozzles for discharging the liquid, comprising:

a step of discharging the liquid from the liquid discharge head which has only nozzles connected to a ~~discharge amount changing device~~ voltage control device which can independently change the amount of liquid discharged from one of the nozzles by changing a respective driving voltage values ~~value~~ of a respective driving pulses ~~pulse~~ to be supplied to ~~the nozzle~~ each of the plurality of nozzles,

wherein ~~in said discharging step~~, the ~~discharge amount changing~~ voltage control device changes ~~the~~ a driving voltage value ~~in accordance with~~ so as to correct a liquid discharge amount change caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the medium, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the medium, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the medium, and a speed of the relative movement of the head and the medium.

4. (Currently Amended) A panel manufacturing apparatus for manufacturing a panel used for a display device by discharging, onto a substrate, a liquid from a liquid discharge head having a plurality of nozzles for discharging the liquid, comprising:

a voltage control device which can change a driving voltage value of a driving pulse to be supplied to each of ~~said~~ the plurality of nozzles,

wherein said voltage control device changes the driving voltage value ~~in accordance with~~ so as to correct a liquid discharge amount change caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

5. (Cancelled).

6. (Currently Amended) A panel manufacturing method of manufacturing a panel used for a display device by discharging, onto a substrate, a liquid from a liquid discharge head having a plurality of nozzles for discharging the liquid,

wherein the panel is manufactured by discharging the liquid from the liquid discharge head having only nozzles connected to a voltage control device which can change a driving voltage value of a driving pulse to be supplied to a nozzle, and

wherein ~~in the discharging operation~~, the voltage control device changes the driving voltage value ~~in accordance with~~ so as to correct a liquid discharge amount change caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, a liquid discharge timing from a nozzle, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

7. (Currently Amended) ~~A liquid discharge apparatus including~~ A color filter manufacturing method for manufacturing a color filter by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a predetermined nozzle whose liquid discharge amount can be changed, ~~comprising:~~

wherein a discharge amount control device ~~which~~ changes a liquid discharge amount-control value including of the predetermined nozzle by changing at least one of ~~conditions including~~ a voltage value and a pulse width of a driving pulse to be supplied to the predetermined nozzle in accordance with a change in a discharging condition for adjacent nozzles adjacent to the predetermined nozzle.

8. (Currently Amended) The ~~apparatus~~ method according to claim 7, wherein ~~said the~~ discharge amount control device changes ~~the discharge amount control value for~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the predetermined nozzle depending on whether or not the liquid is discharged from the adjacent nozzles at substantially the same timing as a discharge timing of the predetermined nozzle.

9. (Currently Amended) The ~~apparatus~~ method according to claim 7, wherein when the predetermined nozzle is a nozzle B, and the adjacent nozzles are nozzles A and C, said discharge amount control device changes ~~the discharge amount control value for~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the nozzle B if one of the discharging conditions is changed, the discharging conditions being associated with whether a liquid is discharged from at least one of the nozzles A and C at substantially the same time as the nozzle B, a liquid is discharged from at least one of the nozzles A and C at a time so near to a discharge time of the nozzle B as to influence the liquid discharge amount of the nozzle B, or no liquid is discharged from either of the nozzles A and C at the time near the discharge timing of the nozzle B.

10. (Currently Amended) The ~~liquid discharge apparatus~~ method according to claim 7, wherein ~~said~~ the discharge amount control device changes ~~the discharge amount control value for~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the predetermined nozzle so as to keep the liquid discharge amount of the predetermined nozzle unchanged when the discharging condition for the adjacent nozzles is changed.

11. (Currently Amended) The ~~apparatus~~ method according to claim 7, wherein when the number of nozzles ~~of the liquid discharge head which are~~ to be used is changed, ~~said~~ the discharge amount control device changes ~~a discharge amount control value for an end portion nozzle of the nozzles to be used, which end portion nozzle is~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the predetermined nozzle located at an end portion among the nozzles to be used.

12. (Currently Amended) The ~~apparatus~~ method according to claim 7, wherein when a combination of nozzles ~~of the liquid discharge head which are~~ to be used is changed, said discharge amount control device changes ~~the discharge amount control value for~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the predetermined nozzle, adjacent nozzles of ~~due to~~ which have undergone a change in a use state ~~of the adjacent nozzles~~.

13. (Currently Amended) The ~~apparatus~~ method according to claim 7, wherein when the predetermined nozzle of the plurality of nozzles of the liquid discharge head becomes a faulty nozzle, and a combination of nozzles to be used changes as use of the predetermined nozzle is inhibited, ~~said the~~ discharge amount control device changes ~~discharge amount control values for~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the adjacent nozzles on both sides of the predetermined nozzle.

14. (Currently Amended) The ~~apparatus~~ method according to claim 7, wherein when a discharge timing of the predetermined nozzle of a the plurality of nozzles of the liquid discharge head is shifted, ~~said the~~ discharge amount control device changes ~~discharge amount control values for~~ at least one of the voltage value and the pulse width of the driving pulse to be supplied to the predetermined nozzle ~~whose discharge timing is shifted and for~~ changes at least one of the voltage value and the pulse width of the driving pulse to be supplied to the adjacent nozzles on both sides of the predetermined nozzle.

15. (Currently Amended) A liquid discharge method of discharging a liquid, to a medium, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a ~~discharge amount control~~ step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the nozzle ~~in accordance with~~ so as to correct a change of the liquid discharge amount caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the medium, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the medium, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the medium, and a speed of the relative movement of the head and the medium.

16. (Previously Presented) The method according to claim 6, wherein the panel comprises a color filter manufactured by discharging ink as the liquid from the liquid discharge head to a pixel area on the substrate, the pixel area being partitioned by a black matrix.

17. (Previously Presented) The method according to claim 6, wherein the panel comprises an electroluminescence device manufactured by discharging an electroluminescence material as the liquid from the liquid discharge head to a pixel area on the substrate.



18. (Previously Presented) The method according to claim 6, wherein the panel comprises an electron-emitting device manufactured by discharging a conductive thin film material as the liquid from the liquid discharge head to the substrate.

19. (Previously Presented) The method according to claim 6, wherein the panel comprises a display panel including a plurality of electron-emitting devices manufactured by discharging a conductive thin film material as the liquid from the liquid discharge head to the substrate.

20. (Currently Amended) A panel manufacturing method of manufacturing a panel used for a display device by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the nozzle ~~in accordance with~~ so as to correct a change of the liquid discharge amount caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, a liquid discharge timing from the nozzle, a direction of relative

movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

21. (Previously Presented) The method according to claim 20, wherein the panel comprises a color filter.

22. (Previously Presented) The method according to claim 20, wherein the panel comprises an electroluminescence device.

23. (Previously Presented) The method according to claim 20, wherein the panel comprises a plurality of electron-emitting devices having thin conductive film portions.

24. (Currently Amended) A color filter manufacturing method which manufactures a color filter by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the nozzle ~~in accordance with~~ so as to correct a change of the liquid discharge amount caused by a change in at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of

the substrate, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

25. (Previously Presented) A method of manufacturing a liquid crystal display panel having a color filter, comprising the steps of:

providing a color filter manufactured by the method according to Claim 24;

and

inserting a liquid crystal compound into a space between the color filter and a counter substrate.

26. (Currently Amended) ~~a~~ A method of manufacturing an apparatus having a liquid crystal display panel, comprising the steps of:

providing a liquid crystal display panel manufactured by the method according to Claim 25; and

connecting the liquid crystal display panel to a signal supply means which supplies the signal to the liquid crystal display panel.

27. (Previously Presented) A panel manufacturing method of manufacturing a panel used for a display device by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the predetermined nozzle in accordance with a change in a discharging condition for at least one nozzle adjacent to the predetermined nozzle.

28. (Currently Amended) The method according to claim 27, wherein the discharging condition includes at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, ~~presence/absence of a faulty nozzle~~, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

29. (Previously Presented) The method according to Claim 27, wherein the panel comprises a color filter.

30. (Previously Presented) The method according to Claim 27, wherein the panel comprises an electroluminescence device.

31. (Previously Presented) The method according to Claim 27, wherein the panel comprises a plurality of electro-emitting devices having conductive thin film portions.

32. (Currently Amended) A color filter manufacturing method which manufactures a color filter by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

~~a step of~~ changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to a predetermined nozzle in accordance with a change in a ~~discharge~~ discharging condition for at least one nozzle adjacent to the predetermined nozzle,

wherein the discharging condition includes at least one of conditions including a combination of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, the number of nozzles to be used for performing a liquid discharge operation to a sheet of the substrate, ~~presence/absence of a faulty nozzle~~, a liquid discharge timing from the nozzle, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

33. (Previously Presented) A method of manufacturing a liquid crystal display panel having a color filter, comprising the steps of:

providing the color filter manufactured by the method according to Claim 32; and

inserting a liquid crystal compound into a space between the color filter and a counter substrate.

34. (Previously Presented) A method of manufacturing an apparatus having a liquid crystal display panel comprising the steps of:

providing the liquid crystal display panel manufactured by the method according to Claim 33; and

connecting the liquid crystal display panel to a signal supply means which supplies the signal to the liquid crystal display panel.